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FOOD AND AGRICULTURE (1949) Department.

MS. SERIES.

G.O. No. 904

Dated 6-9-1949

[Despatch Abstract.]

Agriculture--Expenditure--Application of phosphates to the rice crop Report about the proposed further trials at five Agricultural Research Stations Papers Recorded.

AGRICULTURAL DEPARTMENT.

To:

From:
C.R. Sreenivasa Iyengai
H.Q. Deputy Director of Agriculture, Chepauk, Madras.

To:
The Secretary to Government,
Development Department,
Fort St. George, Madras.

Through
The Director of Agriculture,
Madras.

No. X-2-510/49 Dated 12th April 1949.

Sub: Agriculture-Conference of Agriculture Scientists. Indian Agrl. Research Institute New Delhi-10th-9 April--C.R. Srivivasan-Permitted to ~~allowed~~ attend

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Ref: G.O.No.Ms.1599-dated 26th March 1949.

I attended the Conference of Agricultural Scientists at the Indian Agricultural Research Institute, New Delhi, from 6th to 9th April 1949. Sri B.M. Lakshmipathy Mudaliar, Joint Director of Agriculture and S.N. Chandrasakara Iyer, Government Lecturing and Systematic Botanist also represented Madras. The Conference was opened by the Minister for Food and Agriculture Hon. Jairam Das Daulatram at 11 A.M. on the 6th April. In his opening speech, the Minister hoped that the Conference would be able to formulate a scientific policy of Agriculture Research that willnot only accelerate the promotion of scientific knowledge of agriculture, but also ensure an effective contact between scientific research and the actual problems of increased production of food confronting us. He also expressed that our efforts should aid Government to dispel the doubts expressed in certain quarters of over ~~coming~~ coming of the present food shortage of 10 percent within the next six cultivation seasons.

2. The main subjects discussed were:-

6.4.49: (a) Bringing additional land under food crops and estimate of possible increase in production.

-do- (b) Cultural Experiments.

------- (c) Increased production by crop improvement through breeding and Plant introduction.

-do- (d) Multiplication and distribution of pure seed

8.4.49: (e) Increasing crop production by manuring, improving soil fertility by rotation of crops, grasses and legumes.

-do- (f) Soil Research and Irrigation

..4.49: (g) Mechanisation of Agriculture and Agricultural Implements.

-do Concluding Sessions to consider the review of the discussions.

3. Each day, the discussions were again considered by a Steering Committee of which the representa~~tive~~ from Madras were also included.

4. On the last day, I took part in the discussions on cultural experiments, in particular pointing out the direction in

which, the rice cultivators in Madras are adopting the improvements suggested by the department i.e. reduction in seed rate, economic planting, semi-dry nurseries and use of puddler, extensive adoption of dry ploughking in the Kistna and Guntur Districts to hasten transplanting. On the second day, I explained the paper on seed multiplication and distribution of pure seed prepared by Sri M. Kanti Raj and stressed the need for an effective organisation for safe-guarding purity of seed in the different stages of large scale seed production and distribution.

5. On the third day, I explained the results of the manurial experiments conducted in Madras and pointed out the need for an intelligent use of our meagre manurial resources to varieties of paddy that respond most for a limited use of manure. The short duration varieties grown in Kar, and Navarai season and taladi crops immediately following Kar, respond better to a given dose of nitrogenous manures than long duration varieties grown in the monsoon season. Cultivators, in general, adopt intensive manuring to short duration crops. Sri B.M. Lakshmipathi Mudaliar pointed out the availability of large quantity of bonemeal in India and the need for its effective utilisation for food crops for the conside ration of the conference. Sri S.N. Chandrasekara Iyer explained the place of legumes and grasses in the Agricultural practices prevailing in South India and pleaded for an extension of legumes in the rotation of crops with food crops.

6. Sri B.M. Lakshmipathi Mudaliar, explained firstly the need for greater allotment of Iron and Steel for replacing the worn out indeginous implements and manufacturing of improved implements. In the Steering Committee, I explained the methods and practices that are adopted in Madras.

7. The Conference laid stress that along with reclamation of new land, proper farming practices are to be followed up to ensure regular cropping and avoid erosion and deterioration of soil fertility. There is no scope for the transfer of areas from cash crops to food crops, except in the case of Sugarcane in United Province to an extent of 5 lakhs of acres. This area covering marginal area now under sugarcane, that may get released should be utilised for increasing the area under Oil Seed Crops. The programme of seed multiplication and distribution should be carried on intensively to bring as much area as possible with improved strains. Of the manures, the need for obtaining greater allotments of nitrogenous plus phosphatic fertilizers was noted. Nitrogenous manures had given throughout India very good response. But reviewing the existing condition, it is neither possible to obtain the required nitrogenous fertilizers from abroad nor increase their production in India. Hence the introduction of green manure crops in the rotation, the cheapest form of fertilizing a paddy crop, should be pushed through relentlessly in all areas where such a practice can be advocated.

8. The Conference pointed out the need for an intelligent and judicious use of our existing manurial resources to crops that would give maximum assured return in terms of extra quantity of food grain. Artificials should therefore be used on irrigated crops with assured water supply.

9. The application of phosphates to Rice has not always given any direct increase in yield and has been varying in their response. It is however felt that its application as a long range conservation of soil fertility is desirable. Also in other countries, phosphates are applied to the previous legume crop and its effect is reported to be useful to the following cereal. This aspect has not been so far experimented in Madras. Sri K. Ramiah who had been to Siam and who had the opportunity to meet Agricultural Scientist from Japan told us that phosphates are applied in furrow dried ploughed, and then rice lands are prepared for planting. These two methods of phosphate application have to be experimented with, in this Province to find how far the application of phosphatic manures, particularly Bonemeal will respond to direcly increase the yield of rice.

10. Farm Yard manure is now wasted as fuel. It is computed that over 60% of it, are mis-used as fuel in villages. In order to conserve this very useful manure, the conference was very emphatic about the need for implementing a programme of planting trees in villages and uncultivable wastes as speedily as possible. Composting of town refuse and its utilisation should be encouraged for manuring crops grown within ten miles of towns. Regarding question of using oil cakes as manure, it was expressed that their use as cattle feed be encouraged in a larger measure, as the maintenance of good cattle is essential to timely and good cultural operations.

11. The conference felt that due to lack of facilities such as insufficiency of work animals want of materials like steel, iron, bricks, cement etc. in sufficient quantities, cultural operations are not being taken up in time. It is timely agricultural operations that pull up the yields of crops considerably. Highest priority must be given to the quota of Iron and Steel etc. for agricultural purposes.

12. Highest priority was recommended to the production of green manures and legumes in rotation. This aspect from the short and long term policy for self sufficiency of food, is bound to play a great part in the increased production of crops. It was also stressed that highest priority in the developmental schemes should be given to lift irrigation by pumping from wells, rivers.

13. The Conference finally recommended that a quantitative approach should be made with a view to assess the contribution that could be made by each of the measures suggested and observe their achievement at the end of each year.

14. The concluding Sessions was presided over by K.L. Panjabi, Secretary, Central Ministry of Agriculture. He suggested that in order to carry on sustained work at a scientific level, to associate the accumulated experience of Agricultural Scientists with the Government, efforts in accelerating food self sufficiency, a working party of the conference composed of the Heads of Divisions of the Indian Agricultural Research Institute, New Delhi should be formed. This standing Committee of the Conference would carry on day to day work concerning the recommendations made by the Conference and would keep close liaison with the Government in its food production drive. It was agreed that the main Conference should meet once a year. With this announcement, the Conference terminated.

It will be seen that almost all the recommendations of the Conference except that of the use of Phosphatic manures are already under operation in the Madras Province.

(Sd.) 12-4-49.
H.Q. Deputy Director of Agriculture.
(R)

Forwarded.

(Sd.) 12-4-49.
DIRECTOR OF AGRICULTURE.

DEVELOPMENT DEPARTMENT.

Memo No.41109 AII/49-1 dated 7.5.49.

Agriculture--Conference of Agricultural Scientists at the Agricultural Research Institute, New Delhi--Attendance by Sri C.R. Srinivasa Iyengar.

Ref: From the Head Quarters of Director of Agriculture No. X.2.510/49 dated/12.4.49.

The attention of the Director of Agriculture is invited to para 9 of the report cited (re: application of Phosphates for the Rice Crop) and he is requested to state whether any action is called for on it and if so to submit proposals for consideration of the Government.

(Sd.) 7-5-49.

To The Director of Agriculture.

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AGRICULTURAL DEPARTMENT.

From
R.M. Sundaram, Esq., I.C.S.,
Director of Agriculture,
P.B.No. 412, Madras - 5.

To
The Secretary to Government,
Development Department,
Fort St. George, Madras.

D.Dis. No. X. 772/49, dated the 13th June, 1949.

Sir,

Sub: AGRICULTURE - Conference of the Agricultural Scientists at the Agricultural Research Institute, New Delhi - Trials with phosphates.

Ref: Government Memo. No.41109.A.II/49-1, dated the 7th May, 1949.

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Experiments have so far been conducted in this Province with phosphates as direct dressing to the Rice crop and the results have been varying. While in the loamy soils and less clayey soils, the effect of the phosphates was somewhat more pronounced than in clayey soils, the increased yields obtained are not commensurate with the cost of phosphates.

2. Hitherto the practice is to apply phosphatic manures to the wet paddy fields just before the transplanting and the fields then levelled up and transplanted to paddy. During the past three seasons on the Agricultural Research Stations at Pattambi and Tirurkuppam, where rice is sown dry in the South-West monsoon and later treated as a wet crop, the phosphate was drilled along with the seed. The results were not very encouraging even in this system.

3. Last year the season was very adverse at Tirurkuppam and an experiment with phosphates in the pure dry paddy crop was rendered inconclusive. Sunnhemp was sown in this field and it was found that where phosphates were applied, the growth of sunnhemp was very good.

4. Experiments at the Indian Institute of Agricultural Research have shown that phosphate manuring of the legumes

had....

had increased the yields of wheat and maize. The results of permanent manurials at Pusa had shown that the best yields were obtained with wheat, when sunnhemp used for green manuring was grown with super phosphate. Experiments in foreign countries have also shown that there was greater nitrogen content of soil when the green manure legumes were fertilised with phosphates.

5. Further trials are therefore proposed to be undertaken at the following Agricultural Research Stations with a view to find out whether application of phosphates on the lines suggested by the Headquarters Deputy Director of Agriculture is profitable.

1. Coimbatore,
2. Maruteru,
3. Samalkot,
4. Pattambi,
5. Mangalore.

A report on the trials will be sent after the results are obtained sometime about December, 1950.

(Sd.) R.M. Sundaram,
DIRECTOR OF AGRICULTURE.

True Copy/Forwarded/By Order.

(Sd.) 16.6.49
GAZETTED ASSISTANT.Z

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DEVELOPMENT DEPARTMENT

Memo No.41109 AII/49-2 Development-13.7.49.

Sub: Agriculture--Experiments--Application of phosphates to the Rice Crop.

Ref: From the Director of Agricultural Lr No X. 772/49 dated/13.6.49.

The Director of Agriculture is requested to state whether the costly Scheme for the subsidised distribution of phosphatic manures in the Delta areas included as an Intensive Cultivation Scheme in the Two Year Plan (vide his Lr No.E.E.2 181/49 d/16.6.49) has been proposed with due regard to the benefits of phosphatic manuring in view of the fact he proposed to conduct further experiments to ascertain definitely the benefits of phosphatic manures in the cultivation paddy

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To The Director of Agriculture.

AGRICULTURAL DEPARTMENT.

From
R.M. Sundaram, Esqr., I.C.S.,
Director of Agriculture,
Chepauk, Madras.

To
The Secretary,
Food Department,
Madras.

No. X 772/49 dated 12.8.49.

Sub: Agriculture--Experiments--Application Phosphates to the Rice Crop.
Ref: 1. Government Memo. No.41109 AII/9-2 dated 13.8.1949.
2. My letter X. 772/49 dated 13.6.49.

In reference (ii) cited above, it was only mentioned that experiments are proposed to be conducted to enhance the benefit of phosphate manuring to the rice Crop by an improved technique in its application. It is planned to apply the phosphatic manure to a legume (green manure or a pulse) preceding the rice crop. It does not mean that experiments on the application of phosphates are being conducted for the first time. They have been effective in varying measures in different parts of the province. Phosphates manuring however, has not been as spectular as manuring the rice crop with nitrogenous manure. The need for a phosphatic manure to a rice crop cannot be disputed for a number of reasons. It has given sufficient response in conjunction with bulk organic manures like green leaf and concentrated manures like ammonium sulphate, and groundnut cake, except in laterite soils. The proposed trials it is expected will enable us to use phosphatic manures even in laterite soils.

In this connection, I am also furnishing below the results of large scale trials with phosphatic manures in the main delta areas under ryots method of cultivation in 1946-47 undertaken to popularise phosphatic manure.

District.	Extra yield per acre on account of manuring with P20 5 Lbs.
East Godavari	290
West "	250
Kistna	326
Madura	210

As it is proposed to issue the phosphatic manure only with ammonium sulphate and in areas where green manuring is commonly practised, I consider it very essential to distribute phosphatic manure on a subsidised basis in the intensely cultivated delta areas as an important means to increase the production of ride in this Province. Delta soils are at present highly deficient in P205 contents and there is urgent need to correct this deficiency and improve grain yields.

R.M. Sundaram,
DIRECTOR OF AGRICULTURE.

True Copy/Forwarded/By Order.

(Sd.) 12.8.49.
GAZETTED ASSISTANT.

To A.S.

Please see the Director of Agriculture's reply at page 11 cf

With reference to the notes of ASI on page 2 above. The papers may perhaps be recorded with a call Book entry on 15.12.50. to watch the further report promised in para 5 on page 7 cf. for Orders.

entry
Trade vide
item 6449-CB.

(Sd.) 30.8.49.

"A" above may be approved.

(Sd.)
.9.49.

Sd.)
). Honourable
Minister-
(Agriculture

G.O.No.904 Food and Agriculture dated/6.9.49.

Agriculture--Expenditure--Application of phosphates to the rice crop-Report about the proposed further ~~about the~~ five Agricultural Research Stations-Papers Recorded.

/True Copy/

C.N.V.

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MADRA